May 30, 2016	
9:00-9:30	Registration
9:30-10:15	Diderik Batens (Ghent University) Adaptive mathematical theories: some properties and teachings
10:15-10:30	Coffee break
10:30-12:00	Saeed Salehi (University of Tabriz & $\mathbb{IPM}$) Gödel's incompleteness theorem Constructivity of its various proofs I
12:00-13:30	Lunch break
13:30-14:00	Andreas Weiermann Gödel incompleteness results via Goodstein principles
14:00-14:30	Pawel Pawlowski Non-deterministic modal logics for informal provability
14:30-16:00	Saeed Salehi (University of Tabriz & $\mathbb{IPM}$) Gödel's incompleteness theorem Constructivity of its various proofs II
16:00-16:15	Coffee break
16:15- 17:00	Cezary Cieśliński (University of Warsaw) Disquotationalism and the generalisation problem
17:00-17:45	Albert Visser (Utrecht University) From consistency to interpretability I
17:45-18:15	Alessandro Giordani A new paradox of knowability

May 31, 2016	
10:00 - 10:15	Coffee
10:15-10:45	MICHAŁ TOMASZ GODZISZEWSKI Short elementary cuts in countable models of compositional arithmetical truth
10:45-12:15	SAEED SALEHI (UNIVERSITY OF TABRIZ & IPM) Gödel's Incompleteness Theorem Constructivity of its various proofs III
12:15-13:45	Lunch
13:45-14:15	MICHAŁ TOMASZ GODZISZEWSKI, MAREK CZARNECKI Concrete mathematics - computational finitism as a theory of mathematical practice
14:15-15:00	ALBERT VISSER (UTRECHT UNIVERSITY) From consistency to interpretability II
15:00-16:30	CEZARY CIEŚLIŃSKI (UNIVERSITY OF WARSAW) Syntactic and semantic conservativity of axiomatic theories of truth I
16:30-16:45	Coffee break
16:45-17:15	ANDREA STROLLO The mathematics and the metaphysics of truth reconciled
17:15-18:00	ALBERT VISSER (UTRECHT UNIVERSITY) From consistency to interpretability III
19:00-	Dinner

June 1, 2016	
8:45-9:00	Coffee
9:00-10:30	Cezary Cieśliński (University of Warsaw) Syntactic and semantic conservativity of axiomatic theories of truth II
10:30-11:30	Saeed Salehi (University of Tabriz & IPM) Theoremizing paradoxes: turning puzzles into proofs I
11:30-12:00	Costas Dimitrakopoulos Grades of discernibility
12:00-13:30	Lunch
13:30-14:00	Bartosz Wcisło, Mateusz Łełyk Semantic conservativeness and relative definability
14:00-15:00	Albert Visser (Utrecht University) From consistency to interpretability IV
15:00-15:45	Lavinia Picollo (Munich Center for Mathematical Philosophy) Fixing Reference in Arithmetic
15:45-16:00	Coffee break
16:00-17:00	Saeed Salehi (University of Tabriz & IPM) Theoremizing paradoxes: turning puzzles into proofs II
17:00-17:45	Peter Verdée (Université Catholique de Louvain) Towards completeness: adaptive logic theories for arithmetic

ABSTRACTS OF INVITED SPEAKERS

DIDERIK BATENS (GHENT UNIVERSITY)

Adaptive mathematical theories: some properties and teachings

Several interesting mathematical domains cannot be captured by semi-recursive theories. A way out is often offered by theories that have adaptive logics as their underlying logic. Two examples will be considered in some detail. There is a host of adaptive Fregean set theories (AFS), all inconsistent but non-trivial. For some AFS the following can be shown: if ZFC is consistent, then there is a set Z in AFS that comprises 'the translations' of the ZFC sets, the translations having the same properties in AFS as the original sets in ZFC. So such AFS contain the ZFC sets and contain also some further, properly Fregean, sets, some of which are inconsistent (some x are a member as well as a non-member of them). For the second example, suppose that Peano Arithmetic turns out inconsistent. Even then, that there is an adaptive Peano Arithmetic in which all standard natural numbers behave exactly as in PA, the inconsistencies and other non-classical properties being restricted to non-standard blocks. In applications, the complexity of adaptive mathematical theories may be prevented from spreading to other domains by adopting a contextualist viewpoint.

CEZARY CIEŚLIŃSKI (UNIVERSITY OF WARSAW)

Disquotationalism and the generalisation problem

Disquotationalists believe that all the facts about truth can be explained on the basis of the (so-called) T-schema: 'F' is true iff F. Accordingly, the axioms of their proposed theories of truth are usually characterised as some (chosen) instantiations of this schema. One of the main concerns for the adherent of disquotationalism is the generalisation problem. It is a well-known fact that disquotational theories are typically too weak to prove interesting generalisations about truth (for example, they do not prove that for every sentence F, the negation of F is true iff F is not true). In the talk we are going to propose a certain formal theory which (in our opinion) provides a promising solution to the generalisation problem. Our aim will be to explain why someone who accepts a given disquotational truth theory S, should also accept various generalisations not provable in S. Our strategy will consist in developing an axiomatic theory of believability and then in showing how to derive the believability of generalisations from basic axioms characterising the believability predicate, together with the information that S is a theory of truth accepted by us.

CEZARY CIEŚLIŃSKI (UNIVERSITY OF WARSAW)

Syntactic and semantic conservativity of axiomatic theories of truth

In many recent philosophical discussions about deflationism both philosophers and logicians have been debating the importance of conservativity properties of truth theories. However, there are at least two non-equivalent notions of conservativity employed in such debates: semantic (or model-theoretic) and syntactic. A theory T is syntactically conservative over a theory S if T does not prove any theorems in the language of S which would be unprovable already in S. On the other hand, T is model-theoretically conservative over S iff every model of S can be expanded to a model of T. I will include a presentation of basic formal material, necessary for understanding the aforementioned philosophical debates. In particular, various examples of axiomatic truth theories will be analysed from this angle, with their semantic and syntactic conservativity properties investigated.

Jeffrey Ketland (University of Oxford)

Can semantics explain?

The aim of the talk is to defend the claim that semantics can explain, and in a way that casts doubt on the deflationary picture that semantic notions are perhaps insubstantial or non-explanatory.

Jeffrey Ketland (University of Oxford)

The debate about deflationary truth and conservativeness

The aim is to survey the literature, both philosophical and technical, concerning whether deflationary truth is compatible with the incompleteness results in mathematical logic. This debate originated with papers by Horsten (1995), Shapiro (1999) and Ketland (1999). I will discuss the range of replies and counter-replies that have been given in the subsequent two decades.

Lavinia Picollo (Munich Center for Mathematical Philosophy)

Fixing reference in arithmetic

Self-reference has played a prominent role in the development of metamathematics in the past century, starting with Gödel's first incompleteness theorem. Given the nature of this and other questions and results in the area, the informal understanding of self-reference in arithmetic as fixed points of a certain kind has sufficed so far to account for these phenomena. Recently, however, it has been shown that for other related issues in metamathematics and philosophical logic a more precise notion of self-reference and, more generally, reference, are actually needed. First, we discuss the conditions a good notion of reference in arithmetic must satisfy. In accordance, we then provide two notions of reference for the language of first-order arithmetic, the second of which we show to be fruitful for addressing the aforementioned issues in metamathematics and philosophical logic.

Saeed Salehi (University of Tabriz & $\mathbb{IPM}$)

Theoremizing paradoxes: turning puzzles into proofs

Paradoxes are interesting puzzles in philosophy and mathematics, and they can be more interesting when turned into proofs and theorems. For example, Russell's paradox, which collapsed Frege's foundations of mathematics, is now a classical theorem in set theory, implying that no set of all sets can exist. Or, as another example, the Liar paradox has turned into Tarski's theorem on the undefinability of truth in sufficiently rich languages. This paradox also appears implicitly in Gödel's proof of the first incompleteness theorem. For this particular theorem, some other paradoxes such as Berry's or Yablo's have been used to give alternative proofs. A more recent example is the surprise examination paradox that has turned into a beautiful proof for Gödel's second incompleteness theorem. In this talk, I will focus on Yablo's paradox, which is the first one of its kind that supposedly avoids self-reference and circularity, and will show how it can turn into some theorems in the First-Order Logic, the Linear Temporal Logic, and the Second-Order Logic. This is the first time that this paradox is transformed into some genuine mathematico-logical theorem(s) even though it had been used for proving some old results.

Saeed Salehi (University of Tabriz & $\mathbb{IPM}$)

Gödel's incompleteness theorem: constructivity of its various proofs

We will have a close look at the incompleteness theorems of Kurt Gödel, by investigating its various proofs, especially from the constructivity point of view. Our main focus will be the proofs of Gödel, Kleene, Boolos and Chaitin for the (first) incompleteness theorem. We will see that while the proofs of Gödel and Kleene are constructive, the proofs of Boolos and Chaitin are not (and cannot be) constructive.

Peter Verdée (Université Catholique de Louvain)

Towards completeness: adaptive logic theories for arithmetic

In this talk I will present several ways to define first order arithmetical theories with an adaptive logic as the underlying logic. I will moreover prove that some of them are negation complete and thus do not suffer from Gödel's first (and second) incompleteness theorem, which is possible in view of the fact that the dynamic proofs of adaptive logics are not recursive. In the philosophical part of the talk I will investigate what the advantages and disadvantages are of such theories, and how they could be relevant for explicating actual human reasoning beyond Peano arithmetic (e.g. Gödel's own reasoning that G is arithmetically true).

Albert Visser (Utrecht University)

From consistency to interpretability

We'll give a careful formulation and exposition of the Gödel-Hilbert-Bernays-Wang-Henkin-Feferman Theorem. This theorem is the synctactical version of the Model Existence Lemma. It tells us, very roughly, that we can transform a consistency statement into an interpretation. Using methods due to Solovay and Pudlák we can prove the theorem for a wide range of theories. We will present some of the consequences of the theorem like the Orey-Hájek Characterization and the Friedman Characterization of interpretability.